

SOV/124-58-1-853

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 114 (USSR)

AUTHORS: Kachurin, L. G., Aleshina, G. I., Belyashova, M. A., Zalivina, V. I.,  
Kudryavtseva, V. I., Nesterova, M. I., Serebryakova, A. A.,  
Seryakova, L. P.

TITLE: Analysis of the Precipitation Zones of Stratiform Frontal Clouds  
(Analiz zon osadkov iz frontal'nykh oblakov sloistyykh form)

PERIODICAL: Tr. Leningr. gidrometeorol. in-ta, 1956, Nr 5-6, pp 208-241

ABSTRACT: An investigation of the conditions of precipitation from As, Ns, and Sc type clouds of frontal origin. The first three sections are devoted to a description of the process of the conversion of cloud droplets into precipitation particles. The authors consider therein the problems of the condensational and coagulation growth of the droplets, the dissipation of cloud masses due to subsiding motions and the re-evaporation of the falling precipitation; also described are the conditions conducive to ice-crystal formation in clouds. The reasonings and graphs adduced in these sections are used further on in the analysis of the evolution of cloud masses and precipitation. The vertical motions are calculated according to the

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method of N. I. Bureyev [Rukovodstvo po kratkosrochnym prognozam pogody (Short-range Forecasting Manual), Part I, Gidrometeoizdat, 1955] and, using a suitable graph, the authors determine the temperature level of intense ice-crystal formation for specific instances. The authors compare the location of the isotherm of intense ice-crystal formation with the location of the zone of cloud formation on vertical cross sections and arrive at the conclusion that the location of the boundaries of precipitation zones is much more accurately defined by the points of intersection between the upper boundary of a cloud formation and the line of intense ice-crystal formation than by the boundaries of the vertical currents. Utilizing the model of a specific synoptic situation the authors pose for themselves the task of clarifying the role of the ascending air currents in the process of changes in the precipitation zones. They analyze the effect of the vertical air currents on the location of the surface of intense ice-crystal formation and the altitude level of the upper cloud-mass boundary and arrive at a model of the evolution of the precipitation zones. Here they conclude that the vertical currents should be correlated not just with the fact of precipitation or nonprecipitation, but with the change in the dimensions of the precipitation zones. The last part of the paper is concerned with the confirmation of the proposed calculation scheme; it does so by means of a comparison of the actually obtaining precipitation zones

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with the calculated patterns. As pointed out by the authors, an analysis of 21 instances, during 1951 and 1952, has confirmed the existence of an immediate tie between the vertical currents within the boundaries of precipitation zones and the changes of their dimensions; here the degree of agreement between the boundaries of the calculated and the actually obtaining precipitation zones is determined to a significant degree by the reliability of the calculated horizontal air-mass transfer at the level of the upper cloud-mass boundary. The Appendix contains a description of the quantitative-prediction procedure for the precipitation zones of stratiform frontal clouds. Bibliography: 15 references.

K. G. Abramovich

Card 3/3

KACHURIN, L.G.; ZAYTSEVA, N.A.; LOMANOVA, S.I.

Temperature limits of formation of ice particles in supersaturated water vapor. Izv.AN SSSR Ser.geofiz.no.7:857-861. JL '56 (MIRA 9:9)

1.Leningradskiy gidrometeorologicheskii institut.  
(Ice) (Condensation)

Kachurin, L.G.

USSR/Statistical Physics - Thermodynamics.

D-3

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11406

Author : Kachurin, L.G.

Inst : Leningrad Hydro-Meteorological Institute.

Title : Concerning the Fundamental Equation of Fluctuation Theory of Phase Transformation.

Orig Pub : Zh. fiz. khimii, 1956, 30, No 10, 2137-2143

Abstract : It is shown that in certain cases the fluctuations in metastable phases, leading to the formation of nuclei of the stable phase, can be only density fluctuations, but not order fluctuations. Corresponding equations are given for supersaturated vapors and supercooled liquids. The method developed can be used also to refine the equations of fluctuation formation of planar nuclei of the stable phase in the metastable one.

Card 1/1

KACHURIN, L.G.

Formation of glaze and hoarfrost in supercooled fog. Trudy GGO  
no.57:50-55 '56.

(MLRA 10:1)

(Ice) (Precipitation (Meteorology))

KACHURIN, L.G.

Radiation inertia of aerological thermometers. Meteor. i gidrol.  
no.8:57-60 Ag '57. (MIRA 10:8)  
(Thermometers)

**"APPROVED FOR RELEASE: 07/19/2001**

**CIA-RDP86-00513R000519820007-9**

**APPROVED FOR RELEASE: 07/19/2001**

**CIA-RDP86-00513R000519820007-9"**



AUTHOR: Kachurin, L. G. 50-1-17/26

TITLE: On the Accuracy of the "Preheated Psychrometer"  
(O tochnosti "podogrevayemogo psikhrometra").

PERIODICAL: Meteorologiya i Gidrologiya 1958, Nr 1, pp. 53-54 (USSR)

ABSTRACT: In the paper (reference 2) it is suggested at low temperatures first to warm up air in the aspiration-psychrometers. Similar suggestions, as far as is known, were also made by other authors. But this process does not promise any essential advantages. In order to prove this, calculations and explanations are given. From the data given in this article follows that a relative error in the measurement of the tension of the vapor essentially depends on the intensity of this tension. Thus the instrumental error of the "preheated psychrometer" at low temperatures remains just as high as in an ordinary psychrometer. This is the main thing which renders all methods at low temperatures equally difficult. There are 1 table, and two references, 1 of which is Slavic.

AVAILABLE: Library of Congress

Card 1/1 1. Hygrometers-Performance

KACHURIN, I.G.

Relation of vertical motion in the atmosphere to the intensity of  
precipitation from frontal stratiform clouds. Trudy GGO. no.76:  
50-60 '58. (MIRA 11:11)

1. Leningradskiy gidrometeorologicheskiy institut.  
(Precipitation (Meteorology))

AUTHOR: Kachurin, L. G. SOV/49-59-1-14/23

TITLE: Comparison Between Various Equations for Freezing of Super-Cooled Water Aerosol (Sravneniye razlichnykh uravneniy zamerzaniya pereokhlazhdennykh vodnykh aerorozley)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1959, Nr 1, pp 122-130 (USSR)

ABSTRACT: Freezing of an individual water-drop of the aerosol proceeds in two stages: first, formation of the heterophase ice nucleus and the second, its growth. Determination of the first stage is the most difficult. Various research workers produced a series of formulae from which the expressions (1) and (2) (Refs 2,3,4) give the probability  $\omega$  of the ice formation related to the unit time and unit of volume and the temperature  $T$ . The notations are:  $r$  - radius of ice nucleus;  $T_0$  - the temperature of the solid and liquid in equilibrium;  $u$  - molecular active energy;  $k$  - a Boltzman constant;  $\sigma$  - specific surface energy between phases;  $\mu$  - molecular weight;  $N$  - Avogardo's number;  $L$  - specific energy of phase transition;

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Comparison Between Various Equations for Freezing of Super-Cooled Water Aerosol

$\rho$  - density of the solid mass. The value of  $C$ , being a constant for a given substance, can be calculated from Eq.(3) (Ref 5) where  $n$  - number of molecules in  $\text{cm}^3$ ,  $h$  - Planck constant. The equation (1) can be transformed into Eq.(4) where the fluctuation of density is considered ( $\rho'$  - density of liquid;  $p$  - its pressure;  $C'$  - a constant expressing the value of  $C$  together with a constant characterising the motion of molecules of liquid (Ref 6). The total probability  $\omega$  can be calculated from Eq.(5) which is a sum of Eqs.(1) and (4). The active energy of molecules can be found from the formula (6) (Ref 3). The relationship of  $\omega$  and the molecular motion can be shown as expression (7) (Ref 10) where  $s-s_0$  is the entropy calculated from Eq.(8) for liquids. Therefore, several values of  $\omega$  can be defined depending on the parameters  $C$ ,  $u$ ,  $\sigma$  etc. The values of parameter  $\sigma$  are shown in Fig.1 (Refs 12,13,14).

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Comparison Between Various Equations for Freezing of Super-Cooled Water Aerosol

The latent heat  $L$  can be calculated as the difference between the heat of ice evaporation and that of water (Ref 15). The parameters  $u$  for water is given in Table 1 where  $u/kT$  is calculated from  $u = 3050 \text{ cal/mol} = 2.12 \times 10^{-13} \text{ ergs} = \text{const}$  (Ref 12). The coefficient of water compression can be taken as  $0.45 \times 10^{-10} \text{ g/cm}^3/\text{din/cm}^2$  (Ref 6). The various values of  $\omega$  were calculated from Eq.(1) with the following parameters applied:  $\sigma = 9 \text{ ergs/cm}^2 = \text{const}$ ,  $u = 2.12 \times 10^{-13} \text{ ergs} = \text{const}$ . The result is shown in Fig.1, curve a. The other curves represent  $\omega$  based on the parameters defined by various authors: the curve 5 - Eq.(1) with  $\sigma$  (Ref 10) and  $u$  (Ref 12); the curve B - Eq.(5) with  $C'$  from Eq.(7) and  $\sigma$  (Ref 10); the curve 2 - Eq.(1) with  $C$  from Eq.(3) and  $\sigma$  (Ref 14). These curves and others computed from various values of  $\sigma$  being near to  $0^\circ\text{C}$  and  $10 \text{ ergs/cm}^2$  show an abrupt decrease in the probability of existence of super-cooled cloud or mist at the temperatures  $-15$  to  $-20^\circ\text{C}$ , which agrees with experimental results. A different

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Comparison Between Various Equations for Freezing of Super-Cooled Water Aerosol

character of the curve 2 can be explained by presence of solid matter. In order to find an exact range of freezing of water drops, a calculation was carried out based on Eq.(9) where  $\eta(r)$  - relative number of drops having radius  $r$ ,  $W_r$  - drops which froze,  $(\eta(r) - W_r)$  - number of drops which failed to freeze. By integrating and summarising all  $r$ 's, the Eqs.(10)-(12) are obtained. In order to perform integration, the function  $\eta(r)$  should be known. Thus, the Eqs.(13) and (14) can be formed for the uniform cloud. The time of freezing of  $(1-1/e)$  drops can be calculated from Eq.(15) (Fig.2). The most suitable cloud temperature for formation of ice nuclei was found experimentally to be  $-10$  to  $-20^\circ\text{C}$ . Fig.3 shows the temperature frequency of the isolated cloud as measured from aircraft flight (1 - lower, 2 - upper cloud boundaries). A similar temperature frequency for the multi-layered, rainy, cloud near the top boundary is shown in Fig.4.

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Comparison Between Various Equations for Freezing of Super-Cooled Water Aerosol

Other examples are given in Fig.5 and Table 2, where the results of 774 and 166 aircraft flights respectively are given (Fig.5: 1 - mist, 2 - cloud). There are 5 figures, 2 tables and 30 references, 13 of which are Soviet, 10 English, 6 German, 1 Swiss.

ASSOCIATION: Leningradskiy gidrometeorologicheskii institut  
(Leningrad Hydro-Meteorological Institute)

SUBMITTED: November 10, 1957

Card 5/5

KACHURIN, L.G.

Checking the sensitivity of differential resistance thermometers in unbalanced bridge circuits. Izv.tekh. no.7:  
38-39 J1 '60. (MIRA 13:7)  
(Thermometers--Testing)



KACHURIN, L.G.

Calculating the supercooling of water under ice and the growth speed of ice in bodies of water with an account of the true temperature of the crystallisation front. Izv. AN SSSR, Ser. geofiz. no. 10:1512-1517 0 '60. (MIRA 13:9)

1. Leningradskiy gidrometeorologicheskiy institut.  
(Ice on rivers, lakes, etc.)

24(3) 24.5400

AUTHORS: Kachurin, L.G., Bekryayev, V.I.

53947

SOV/20-130-1-15/69

TITLE: Investigation of the Process of <sup>v</sup>Electrification of Crystallizing Water

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 57-60 (USSR)

ABSTRACT: To investigate the electric effects occurring in the crystallization of liquids the author made direct measurements of the charges formed on the crystallization of undercooled drops of distilled water. Figure 1 shows the measuring device. The water drop applied to a wire loop is in the focus of a microscope. The crystallization of the drop is then filmed. In the investigation of the temperature conditions in the crystallization the drop was on a thermocouple. Considerable charges are formed only if the drop explodes on the crystallization. Figure 3 shows the typical oscillogram of the explosion; positive and negative charges of approximately the same amount are observed. On other oscillograms either the positive or the negative charge predominates. However, the first pulse on the oscillogram is always positive. The entire explosion process lasts for some hundredths of seconds. Towards negative values the charge gradually increases. At the moment of explosion

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Investigation of the Process of Electrification  
of Crystallizing Water

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SOV/20-130-1-15/69

the positive charge forms ice particles with relatively large dimensions and correspondingly large (negative) charges. For this reason the charge increases jump-like on the tearing of the ice particles. The positive charges are, however, torn off by a jet of microscopical drops. Table 1 presents the results of 70 measurements of exploding water drops 0.2 to 2 mm in diameter at temperatures of from  $-3^{\circ}$  to  $-20^{\circ}$ . A dependence of the amount of the charge on the dimensions of the exploding drops could not be observed. Not all the drops investigated exploded on crystallization but crystallization frequently ended with the deformation of the drops and with the formation of gaps. Obviously minute ice crystals depart from the drop at the moment of gap formation, which carry a corresponding negative charge. The drops exploded above all when they were undercooled to  $-2^{\circ}$  to  $-7^{\circ}$ , if an ice crystal impinged on the drop surface from outside. Under corresponding conditions the freezing of the undercooled water aerosols is bound to have chain-reaction character. On its explosion the freezing drop forms a series of ice fragments which fall on other undercooled drops and initiate their crystallization. Thus, the number of crystallizing drops increases avalanche-like. There are 4

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Investigation of the Process of Electrification  
of Crystallizing Water

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figures, 1 table, and 4 references, 3 of which are Soviet. ✓

ASSOCIATION: Leningradskiy gidrometeorologicheskii institut (Leningrad  
Hydrometeorological Institute)

PRESENTED: September 7, 1959, by A.F. Ioffe, Academician

SUBMITTED: August 11, 1959

Card 3/3

KACHURIN, L.G.; ALANT'YEVA, L.Ye.; SYA YUY-ZHEN' [Hsia Yü-jên]

Vapor concentration and growth rate of condensate drops in water  
aerosols. Izv. AN SSSR. Ser. geofiz. no.9:1418-1425 S '61.  
(MIRA 14:9)

1. Leningradskiy gidrometeorologicheskii institut.  
(Cloud physics)

KACHURIN, L.G.; PETROV, N.A., otv. red.; MIRONENKO, Z.I., red.;  
~~KISELEVA, L.I., tekhn. red.~~

[Electric measurements of aerophysical values] Elektricheskie  
izmereniia aerofizicheskikh velichin. Leningrad, Izd-vo  
Leningr. univ., 1962. 414 p. (MIRA 15:9)  
(Meteorological research—Electric equipment)

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S/049/62/000/006/001/002  
D207/D308

AUTHOR: Kachurin, L.G.

TITLE: On the theory of icing of aircraft

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya, no. 6, 1962, 823-832

TEXT: The author develops a kinetic theory of icing of an aircraft flying through supercooled clouds. To simplify calculations the author considers a flat plate moving through a cloud. The plate is coated with a layer of ice, on top of which there is a layer of water. The surface of the plate, the ice-water boundary and the outer water surface are assumed to be all plane-parallel (one-dimensional case). Tangential force on the water layer is taken to be  $F = F_1 + F_2$ , where  $F_1$  is the force due to air flow past the plate and  $F_2$  is the force exerted by water droplets from the cloud impinging on the plate; usually  $F_1 \gg F_2$ . Calculations of the Reynolds number, for air flowing at  $V = 10^3$  to  $5 \times 10^4$  cm/sec

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On the theory of icing of aircraft

S/049/62/000/006/001/002  
D207/D308

past a plate with a layer of water 0.5 to  $10^{-3}$  cm thick, showed that either viscous or turbulent conditions are possible. Considerations of heat transfer indicated that, depending on the conditions of motion, either steady-state or non-steady-state icing may occur. In the steady-state case the rate of growth of the ice layer is equal to the rate of collection of water from the cloud; this condition is the most dangerous because then a uniform layer of ice is being formed continuously. If the velocity of motion of the plate is  $V \geq 10^4$  cm/sec, the time necessary to reach steady-state conditions may be of the same order as the time taken to traverse the cloud. The few available experimental data on the icing of aircraft agree qualitatively with the author's theory. In conclusion, the author suggests how his theory can be developed further and checked by laboratory experiments. There are 3 figures and 3 tables. j

ASSOCIATION: Leningradskiy gidrometeorologicheskii institut  
(Leningrad Hydrometeorological Institute)

SUBMITTED: January 17, 1961  
Card 2/2



KACHURIN, L. G.; GASHIN, L. I.; OSIPOV, Yu. G.

Control of the structure of crystals growing in a flow of  
supercooled aerosols. Dokl. AN SSSR 147 no.4:833-834 D '62.  
(MIRA 16:1)

Leningradskiy gidrometeorologicheskiy institut. Predstavleno  
akademikom A. V. Shubnikovym.

(Aerosols) (Crystals--Growth)

ACCESSION NR: AT4033373

8/2960/63/000/002/0127/0141

AUTHOR: Kachurin, L. G.

TITLE: Disruption of the colloidal stability of supercooled clouds by supersaturation with vapor

SOURCE: Leningrad. Universitet. Problemy\* fiziki atmosfery\*, no. 2, 1963, 127-141

TOPIC TAGS: meteorology, atmospheric physics, colloidal stability, supercooled cloud, cloud, spontaneous condensation, water vapor, cloud modification, rain

ABSTRACT: The principal method for disruption of the colloidal stability of supercooled clouds is by introduction of cooling substances, especially solid carbon dioxide, into a cloud. It is generally accepted that the ice particles disrupting colloidal stability are formed in a region where the temperature is below -41C and humidity is adequate for spontaneous condensation. Despite prevailing concepts, the zone of formation of ice particles is not limited by the isotherm -41C, but by that isotherm at which supersaturation is sufficient for spontaneous condensation of the ice phase. Depending on the temperature of the cooling surface this isotherm can be either above or below -41C. This fact has made it possible to propose a new method for disrupting the colloidal stability of supercooled clouds

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ACCESSION NR: AT4033373

by use of supersaturated vapor. This method was proposed in 1953 by the author (Trudy GGO, No. 20, 1953). In this study it is applied to real atmospheric conditions. The following aspects of the problem are discussed in detail: conditions for spontaneous condensation in a cloud, phase state of spontaneously condensing water and spontaneous condensation of water vapor in a supersonic flow. Orig. art. has: 32 formulas, 3 figures and 3 tables.

ASSOCIATION: Leningradskiy universitet (Leningrad University)

SUBMITTED: 00

DATE ACQ: 23Apr64

ENCL: 00

SUB CODE: ES

NO REF SOV: 015

OTHER: 005

Card 2/2

KACHURIN, L.G.; TOLSTOBROV, B.Ya.; YALYNYCHEV, N.S.

Stationary photoelectronic anemogradiograph with an automatic digital device for averaging the results of measurements. Trudy Len. gidromet. inst. no.15:137-144 '63.  
(MIRA 17:1)

KACHURIN, L.G.; TOLSTOBROV, B.Ya.; USHAKOV, V.M.; YALYNYCHEV, N.S.

Stationary automatically self-balancing thermogradiograph.  
Trudy Len. gidromet, inst, no.15:161-170 '63.

Unbalanced field thermogradiograph. Ibid.:171-179  
(MIRA 17:1)

KACHURIN, L.G.

Automatic integral pulsimeters. Trudy Len. gidromet. inst.  
no.15:187-190 '63. (MIRA 17:1)

KACHURIN, L.G.; POPOV, Ya.P.

Inertial characteristics of the transmitters of air current  
directions. Trudy Len. gidromet. inst. no.15:200-206 '63.  
(MIRA 17:1)

KACHURIN, I.G.; LI SAN GEN [Li Sang-keng]

Standard calculation of a quick-response resistance thermo-  
anemometer with temperature compensation. Trudy Len. gidromet.  
inst. no.15:214-219 '63. (MIRA 17:1)



1986-07-19

SOURCE: AN SSSR. Izvestiya. Seriya geofizicheskaya.

1986-07-19. 1986-07-19. Archimedean acceleration. 1986-07-19.

ABSTRACT: The solution obtained in this paper is based on the theory of the

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KACHURIN, Lev Grigor'evich; MORACHEVSKIY, Vitaliy Georgiyevich;  
TSAR'KOVA, Z.I., red.

[Kinetics of phase transformations of water in the atmosphere]  
Kinetika fazovykh perekhodov vody v atmosfere. Leningrad,  
Izd-vo Leningr. univ., 1965. 143 p. (MIRA 18:8)

KAMYSHV, Nikolay Ivanovich; KACHURIN, Marat Borisovich; MARTYNOV,  
B.B., red.; YEFREMOVA, Ye.B., red.

[About the MD-5 and MD-2.5 engines for airplane model  
makers] Modelistam - o dvigateliakh MD-5 i MD-2,5. Mo-  
skva, DOSAAF, 1964. 38 p. (MIRA 17:9)

CA

Leads mercerization of materials. M. G. Kachur.  
Zhukov. Prom. 8, No. 8, 20(1948); Chem. Zvest. (Russian  
Zvez. Ed.) 1948, 1, 248. — In order to avoid uneven merceri-  
zation of smooth materials such as talcra, it is recommended  
that mercerization be done on the printing machine by  
"printing" with the following prep.: 30% NaOH 900,  
thickening agent 100, neutral contact agent 20, and turpen-  
tine 10 g. The "printed" material is dried, then washed,  
bleached, and dyed. It is recommended that printing with  
the mercerizing liquor be done after bleaching. It is de-  
sirable to add a wetting agent to the mercerizing liquor.  
M. G. Moore

Textile Finishing

Improving the artistic finishing of cloth. Tekst. prom. No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

1. KACHURIN, M. G.
2. USSR (600)
4. Cotton Finishing
7. Using crimp finishing for cotton fabrics.  
Tekst. prom. 12 no. 10, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KACHURIN, N.G.

Studying the people's demand for fabrics. Tekst.prom. 14 no.6:  
38-41 Je '54. (MLRA 7:7)

1. Glavnyy inzhener fabriki in. V.Slutskey.  
(Textile fabrics)



KACHURIN M.G.

Reducing the shrinkage of staple fabrics. Tekst.prom.14 no.12:  
32-34 D'54. (MIRA 8:2)

1. Glavnyy inzhener fabriki im. Vory Slutskey.  
(Textile finishing)

KACHURIN, M.G.

Investigation of stripiness in cotton fabrics. Tekst.prom. 16  
no.9:29-33 S '56. (MLRA 9:12)

1. Glavnyy inzhener Leningradskoy fabriki imeni V.Slutskey.  
(Cotton fabrics)

KACHURIN, M.G.

Permanent embossing of cotton fabrics. Tekst. prom. 17 no.8:11-14  
Ag '57. (MLRA 10:9)

1. Glavnyy inzhener fabriki imeni V. Slutskey.  
(Cotton fabrics)

KACHURIN, N.G.

Combating streaking of cotton fabrics. Tekst.prom. 18 no.5:44-47  
My '58. (MIRA 11:5)

1. Glavnyy inzhener fabriki imeni Vary Slutskoy.  
(Dyes and dyeing--Cotton)

KACHURIN, M.G.; TSIRKEL', Ye.E.; ORNKOVA, A.E.; KOROLEVA, A.V.;  
TETERINA, V.I.

Boiling-out cotton fabrics with the aid of sodium sulfite. Inv.  
vys.ucheb.zav.; tekhn.tekst.prom. no.6:98-103 '59.  
(MIRA 13:4)

1. Leningradskaya shtsenabivnaya fabrika im. Very Slutskoy, 1  
tekstil'noye upravleniye Leningradskoy.  
(Cotton finishing)

GROMADSKIY, G.S.; KACHURIN, M.G., glavnyy inzh.

High-speed filtration plant. Tekst.prom. 20 no.4:58-61 Ap  
'60. (MIRA 13:8)

1. Direktor fabriki imeni Vary Slutskoy (for Gromadskiy).  
(Water--Purification) (Textile factories)

GROMADSKIY, G.S.; KACHURIN, M.G.; TARASOV, S.N., LAPSHIN, M.G.

Consultation. Tekst.prom. 20 no.6:83-85 Je '60.  
(MIRA 13:7)

1. Direktor fabriki imeni V.Slutskey (for Gromadskiy).
2. Glavnyy inzhener fabriki imeni V.Slutskey (for Kachurin).  
(Textile industry)

KACHURIN, M.G.; GOTOVTSEVA, L.A.; SHIKHER, M.G.

Continuous bleaching of fabrics under tension. Tekst.prom. 20  
no.9:40-44 S '60. (MIRA 13:10)  
(Bleaching) (Textile fabrics)



KACHURIN, M.G.

Meeting of the Ordinary International Congress of Colorists.  
Tekst.prom. 21 no.3:79-80 Mr '61. (MIRA 14:3)

1. Chlen postoyannogo komiteta Mezhdunarodnogo kongressa koloristov.  
(Textile finishing--Congresses)

KACHURIN, M.G.

Automatically controlled inspection machine. Tekst.prom.22 no.3:  
82-83 Mr '62. (MIRA 15:3)

1. Glavnyy inzh. Leningradskoy otdelochnoy fabriki imeni V.Slutskey.  
(Textile fabrics--Testing)

KACHURIN, N.P.

Some problems in the construction of automobile roadbeds in the  
regions of permanently frozen ground. Trudy Sev.-Vost.otd.Inst.  
merzl.AN SSSR no.1:88-100 '58. (MIRA 16:12)

KACHURIN, O. I.

AUTHORS: Spryskov, A. A., Kachurin, O. I.

79-11-34/56

TITLE: Investigation of the Sulfonation Reaction  
(Izucheniye reaktsii sul'firovaniya).  
XLV. Concerning the Determination of the Isomeric  
Chlorobenzene Sulfonic Acids (XLV. K opredeleniyu  
izomernykh khlorbenzolsul'fokislot).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 11,  
pp. 3072-3075, (USSR)

ABSTRACT: Of three isomeric chlorobenzene sulfonic acids only  
the p-chlorobenzene sulfonic acid was found in direct  
sulfonation of chlorobenzene. No method was hitherto worked  
out for determining the o- or m-chlorobenzene sulfonic acids  
in the sulfomixture, so that the absence of these two isomers  
is not yet quite proved. Thus their determination in the  
sulfomixtures is indispensable for the investigation of the  
process of sulfonation of chlorobenzene. The m-isomer can be  
determined in the mixture by substitution of chlorine in the  
chlorobenzene sulfonic acid by an alkylamino group. In the  
bromination of the resulting mixture of isomeric N-alkyl-  
aminosulfonic acids the sulfogroup, which is in ortho- or  
paraposition to the amino group, is separated by bromine.

Card 1/2

Investigation of the Sulfonation Reaction.  
XLV. Concerning the Determination of the Isomeric  
Chlorobenzene Sulfonic Acids

79-11-34/56

The quantity of the meta isomer can be found by determination of the total quantity of amine after bromination and the quantity of the separated sulfuric acid. The para isomer in the sulfomixture can be found by the quantity of the meta isomer. The para isomer in the sulfomixture can be obtained with the aid of the thermal analysis in the mixture of the chlorobenzene-sulfochlorides. The melting point of the p-chlorobenzene sulfochloride is 53°C, of the ortho isomer 28,5°C, but the meta isomer does not solidify in the cooled mixture. The m-chlorobenzene sulfochloride crystallizes at - 26,3°C. The fusion curve of the triple sulfochloride mixtures found by the authors gives the determination of the para isomer in the mixture. There are 1 figure, 3 tables, and 4 references.

ASSOCIATION: Ivanovo Chemical-Technological Institute (Ivanovskiy  
Khimiko - tekhnologicheskii institut).

SUBMITTED: November 17, 1956

AVAILABLE: Library of Congress

Card 2/2 1. Chlorobenzene sulfonic acids - Determination

**AUTHORS:** Spryskov, A. A., Kachurin, O. I. 153-58-1-15/29

**TITLE:** Investigation of the Sulphonization-Reaction (Izucheniye reaktsii sul'firovaniya). XLVIII. Quantitative Determination of Isomeric Chlorobenzene-Sulfo Acids (XLVIII. Kolichestvennoye opredeleniye izomernykh khlorbenzolsul'fokisl'ot)

**PERIODICAL:** Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 97-99 (USSR)

**ABSTRACT:** Both quantitative and qualitative elaborated methods of determination of the aforesaid acids in a mixture which is formed due to an immediate chlorobenzene-sulphonization, are lacking up till now. Only the p-chlorobenzene-sulfo acid was found in it (ref. 1). The absence of other isomers in mixtures formed under various conditions of sulphonization remains unproved. The method of determination of the meta-isomer was based on the substitution-reaction of chlorine by the methyl-amino-group in the chlorobenzene-sulfo acid under the action of methyl amine (ref. 2 by the authors). The formed mixture of the isomeric N-methyl-aniline-sulfo acids is analyzed by means of bromination, in which case the

Card 1/4

Investigation of the Sulphonization-Reaction.

153-58-1-15/29

XLVIII. Quantitative Determination of Isomeric Chlorobenzene-Sulfo Acids

sulfo group - which is in an o- or p-position to the amino-group - is quantitatively replaced by bromine. The content of the meta-isomer is determined by means of the determination of the total quantity of amine from the consumption of bromine and according to the  $H_2SO_4$  separated from the ortho- and para-isomers by means of the method of weight. The para-isomer is determined in the sulfo-mixture by means of the thermal analysis of the mixture of chlorobenzene-sulfochlorides (ref. 2). The ortho-isomer is determined from the difference. A prescription of analysis follows. As mentioned above, the total quantity of sulfo acids can be calculated from the quantity of bromine consumed for bromination. The quantity of the o- and p-isomers is determined from the quantity of barium sulfate. If the quantity of bromine consumed is expressed as a volume of a 0,1 n-solution of the bromide-bromate, the result may be calculated according to the formula

$$\frac{60\ 000 \cdot 100 \cdot S \cdot K_1}{233,4/K_1 3(25-5)+K_2(a-b)} - \sum \text{ of the o- and p-isomers}$$

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Investigation of the Sulphonization-Reaction.

153-58-1-15/29

XLVIII. Quantitative Determination of Isomeric Chlorobenzene-Sulfo Acids

in % of the amount of the sulfo-acids, in which case S - is the weight of the  $\text{BaSO}_4$ ,  $K_1$  and  $K_2$  coefficients to the rigorous 0,3 and 0,1 n-solutions of the bromide-bromate and a as well as b are ml-numbers of the latter solution consumed for the titration in a operational and control test. m- and o-isomers are determined from the difference between the amount of all isomers and of the ortho- and para-amount, p-isomer from the results of thermal analysis. The checking of the results obtained with artificially produced mixtures of pure isomers (table) showed deviations which rarely exceeded 1% of the isomeric amount. There are 1 table and 2 references, 1 of which is Soviet.

ASSOCIATION: Ivanovskiy khimiko-tekhnologicheskii institut, Kafedra organicheskoy khimii (Ivanovo Chemical Technological Institute, Chair for Organic Chemistry)

SUBMITTED: September 21, 1957

Card 3/3



5(3)

SOV/153-58-5-8/28

AUTHORS: Kachurin, O. I., Spryskov, A. A.

TITLE: Investigation of the Sulfonation Reaction (Izucheniye reaktsii sul'firovaniya) LI. Isomerization of Chloro Benzene Sulfo Acids (LI. Izomerizatsiya khlorbenzolsul'fokislota)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 5, pp 52-57 (USSR)

ABSTRACT: Earlier (Ref 1) the authors had proved that the ortho-chloro benzene sulfo acid together with the p-isomer can be formed by the action of sulfur trioxide on chloro benzene at low temperatures. Within the range of from room temperature to 150° the para acid is formed practically alone on the action of any sulfonizing agents on chloro benzene. At higher temperatures p- and m-isomer mixtures are formed in which the m-isomer can amount up to 55%. The problem mentioned in the subtitle was investigated with m- and p-sulfo acids. Their isomerization takes place by the hydrolysis of the acids and the resulfurization of the chloro benzene formed. It was proved that the hydrolysis of the p-isomeric sulfo acids in a sulfuric acid is observed at about 150°. Table 1 shows the experimental results. At

Card 1/4

SOV/153-58-5-8/28

Investigation of the Sulfonation Reaction. LI. Isomerization of Chloro  
Benzene Sulfo Acids

higher temperatures the transformation of the p-isomer into the m-isomer becomes possible. At 168° the hydrolysis of the latter is also observed. At the same time benzene sulfo acid was hydrolyzed under the same conditions. The chlorine atom in a o- and p-position to the sulfo group in the benzene nucleus activates the molecule to the hydrolysis reaction. The latter is an electrophilic reaction. Chlorine in a m-position has a deactivating effect. As the isomerization takes place at an almost unchanged concentration of sulfuric acid and water it may be regarded as a reversible pseudomolecular process. From its equation the kinetic equation and the equilibrium constant between the isomers is derived. The experimental results mentioned in table 2 show the effect of the amount of sulfuric acid upon the rate of isomerization. Table 3 gives the results of the experiments carried out at 3 different temperatures (185, 204 and 220°). They show that the equilibrium constant changes little with temperature. Figures 1 and 2 show the linear dependence of the quantity  $\log(1-F)$  upon time, with F denoting the ratio of the current concentration ( $x_p$  or  $x_m$ ) of

Card 2/4

SOV/153-58-5-8/28

## Investigation of the Sulfonation Reaction. LI. Isomerization of Chloro Benzene Sulfo Acids

the isomer formed in the reaction and its equilibrium concentration. The average value of the constants for each temperature was found according to the method of the least squares. The results of the calculations are given in table 4. Figure 3 gives the linear dependence of the natural logarithms of the velocity constants upon the reciprocal temperature. The results obtained made possible the calculation of the values of the activation energies of the isomerization process of each isomer according to the theory of the least squares. Finally the temperature coefficient of the reaction was calculated. In an equilibrium mixture about 54% of the m- and 46% of the p-isomer are contained. At 220° a state close to the equilibrium is obtained after 27 hours. There are 3 figures, 5 tables, and 2 Soviet references.

ASSOCIATION: Ivanovskiy khimiko-tekhnologicheskii Institut, Kafedra organicheskoy khimii (Ivanovo Chemo-Technological Institute, Chair of Organic Chemistry)

Card 3/4

AUTHORS: Spryskov, A. A., Kachurin, O. I. SOV/79-28-6-48/63

TITLE: Investigation of the Sulfonation Reaction (Izucheniye reaktsii sul'firovaniya) XLVII. The Investigation of the Hydrolysis of Chlorobenzenesulfo Acid According to the Method of Radioactive Indicators (XLVII. Ob izuchenii gidroliza khlorbenzolsul'fokisloty metodom radioaktivnykh indikatorov)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1642 - 1646 (USSR)

ABSTRACT: As is known the reaction velocity of the hydrolysis of sulfo acids depends on the temperature, the nature of the mineral acid present, its concentration and the concentration of the sulfo acid itself (Ref 1). Thus with an increase of the concentration of sulfuric acid in the reaction mixture also the velocity of the hydrolysis of sulfo acids increases. It was, however, shown that in the case of an increase of the concentration of sulfuric acid from 90-100% the isomerization of the m-benzenedisulfo acid, which takes place via hydrolysis, slows down. It was found in the investigation of the hydrolysis of 1,3,6-naphthalenetrisulfo acid at 180° (Ref 3) that with an increase of the concentration of sulfuric acid up to 87,6% also the amount of desulfonated sulfo acid increases, but

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Investigation of the Sulfonation Reaction. XLVII. The SOV/79-28-6-48/63  
Investigation of the Hydrolysis of Chlorobenzenesulfo Acid According to the  
Method of Radioactive Indicators

that it decreases when the concentration reaches 95,%. This decrease is certainly connected with the resulfonation reaction of the product of hydrolysis, the velocity of which in the case of an increase of the concentration of sulfuric acid highly increases. Thus this resulfonation reaction hampers the investigation of the influence exerted by high concentrations of sulfuric acid on the velocity of hydrolysis as it had earlier always been estimated according to the amount of the product of hydrolysis or according to the quantitative increase of sulfuric acid in the mixture. In order to remove this hindrance the authors used radioactive sulfuric acid with the isotope  $S^{35}$ . The chlorobenzenesulfo acid mixed with this acid is only hydrolyzed at higher temperature while the residual sulfo acid remains inactive; thus the amount of hydrolyzed acid can be determined according to the increase in sulfuric acid. When, however, on the occasion of the increase of the concentration of sulfur besides the hydrolysis also the sulfonation occurs the chlorobenzenesulfo acid becomes radioactive. Thus the increase of activity of the sulfo acid reflects the increase of the velocity of either process and can be useful for the investi-

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Investigation of the Sulfonation Reaction. XLVII. The SOV79-28-6-48/63  
Investigation of the Hydrolysis of Chlorobenzenesulfo Acid According to the  
Method of Radioactive Indicators

gation of the influence of concentrated sulfuric acid on the  
velocity of hydrolysis. There are 2 figures, 1 table, and 6  
references, 2 of which are Soviet.

ASSOCIATION: Ivanovskiy khimiko-tekhnologicheskii institut (Ivanovo Chemical  
-Technological Institute)

SUBMITTED: May 27, 1957

1. Organic acids--Hydrolysis

Card 3/3

AUTHORS: Spryskov, A. A., Kachurin, O. I. SOV/79-28-8-44/66

TITLE: On the Orientation at Substitution in the Aromatic Series  
(K oriyentatsii pri zameshchenii v aromaticheskoy ryadu)  
IV. Sulfonation of Chlorobenzene (IV. Sul'firovaniye  
khlorbenzola)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp. 2213-2217  
(USSR)

ABSTRACT: Since the numerous kinds of sulfonation of chlorobenzene  
gave for 100 years nothing but the p-chlorobenzene sulfonic  
acid and a bis-(4-chlorophenyl) sulfone, Holleman (Golleman)  
(Ref 9) considered it an established fact that in all these  
reactions only the para-isomer was formed. All publications  
on this subject (Refs 1 - 9) characterize, but do not exhaust  
the question of the sulfonation of chlorobenzene. Because of  
some obvious theoretical considerations the authors regarded  
it as possible to attain by a change of the sulfonation  
conditions the other isomers of the chlorobenzene sulfonic acid  
as well. The results of their studies confirmed their  
assumption: On sulfonation of the chlorobenzene with sulfuric

Card 1/3

On the Orientation at Substitution in the Aromatic  
Series IV. Sulfonation of Chlorobenzene

SOV/79-28-8-44/66

anhydride at  $-12$  up to  $+3^{\circ}$  for the first time 1,8-5,8% of o-chlorobenzene sulfonic acid were found. At temperatures of  $150-238^{\circ}$ , m-chlorobenzene sulfonic acid was formed the quantity of which increased up to a certain degree with further increasing temperature. Thus, the sulfonation by means of sulfuric acid at  $238^{\circ}$  yields within 12-15 hours a mixture of chlorobenzene sulfonic acid containing more than 50% of the meta-isomer. The ortho-isomer is not formed at increased temperature. The change in the ratio of the isomers at higher temperatures thus confines the applicability of the classical orientation rules in the benzene nucleus. This is seen from tables 1 and 2. In order to determine the isomers of the chlorobenzene sulfonic acid after the sulfonation and to be able to separate them, "semi-quantitative" determinations of the solubility of their salts with 18 amines had been performed (Table 3). Details are given in the experimental section. There are 3 tables and 13 references, 5 of which are Soviet.

Card 2/3



On the Orientation at Substitution in the  
Aromatic Series. IV. Sulfonation of Chlorobenzene

SOV/79-28-8-44/66

ASSOCIATION: Ivanovski ~~Khimiko~~-tekhnologicheskii institut  
(Ivanovo Chemical and Technological Institute)

SUBMITTED: July 6, 1957.

Card 3/3

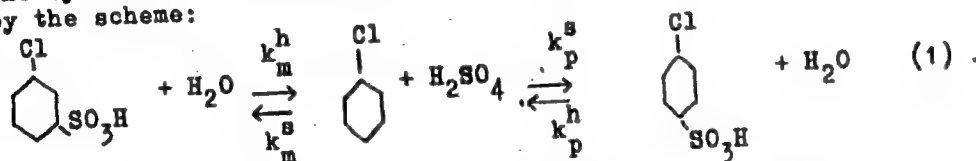
KACHURIN, O.I., Cand Chem Sci — (diss) "Formation, hydrolysis,  
and isomer<sup>z</sup>ation of chlorobenzenesulfo<sup>nic</sup> acids." Ivanovo, 1959,  
11 pp (Min of Higher Education USSR. Ivanovo Chem Technological  
Inst) 150 copies (KL, 34-59, 111)

- 16 -

S/153/60/003/004/021/040/XX  
B020/B054

AUTHORS: Kachurin, O. I., Spryskov, A. A., Mel'nikova, L. P.  
TITLE: Study of the Sulfonation Reaction. LIII. Method of Isotopic Exchange for Studying the Kinetics of Hydrolysis of Chloro-benzene Sulfonic Acids  
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 4, pp. 669 - 674

TEXT: The present paper continues the series studying the formation, hydrolysis, and isomerization of chloro-benzene sulfonic acids (Refs. 1,2). In weakly concentrated, aqueous-sulfuric acid solutions, the system investigated can be illustrated with some simplifications by the scheme:



Card 1/4

Study of the Sulfonation Reaction.

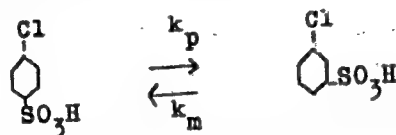
S/153/60/003/004/021/040/XX

LIIII. Method of Isotopic Exchange for

B020/B054

Studying the Kinetics of Hydrolysis of Chloro-benzene Sulfonic Acids

It appears that two hydrolytic and two sulfonation reactions proceed at the same time, with three organic components participating. On the basis of experimental data, it may be assumed that all reactions in the system proceed at constant water- and sulfuric acid concentrations. Thus, only the previously studied (Ref.2) monomolecular isomerization process



(2)

can be determined in the usual manner. To distinguish hydrolysis from a system of four reactions, it is possible to study the isotopic exchange between the sulfonic acids and the sulfuric acid in the solution

Card 2/4

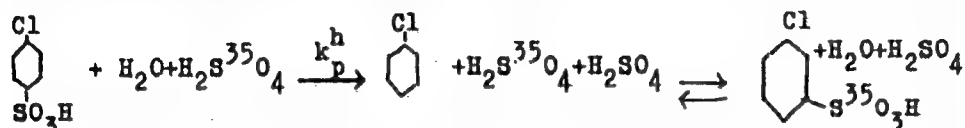
Study of the Sulfonation Reaction.

S/153/60/003/004/021/040/XX

LI. Method of Isotopic Exchange for

B020/B054

Studying the Kinetics of Hydrolysis of Chloro-benzene Sulfonic Acids



The authors observe the exchange of m-chloro-benzene sulfonic acid (Fig.1) and p-chloro-benzene sulfonic acid (Fig.2) with 79.5% of  $\text{H}_2\text{S}^{35}\text{O}_4$ . The calculated monomolecular constants of the reaction rates are given in Table 1. The logarithms of the mean values for the rate constants are linear to the reciprocal temperatures (Fig.3). Table 2 indicates the values for the activation energies and the logarithms of the exponential functions in the Arrhenius equation. The authors compare the values found for the total rate constants in the isomerization of chloro-benzene sulfonic acids with the calculated values; the isomerization rate was calculated from the equilibrium constant of the isomers and the rate constants of hydrolysis. There are 3 figures, 3 tables, and 4 references: 3 Soviet and 1 British.

Card 3/4

Study of the Sulfonation Reaction.

S/153/60/003/004/021/040/XX

LIII. Method of Isotopic Exchange for

B020/B054

Studying the Kinetics of Hydrolysis of Chloro-benzene Sulfonic Acids

ASSOCIATION: Ivanovskiy khimiko-tekhnologicheskii institut, kafedra  
organicheskoy khimii (Ivanovo Institute of Chemical  
Technology, Department of Organic Chemistry)

SUBMITTED: September 25, 1958

Card 4/4

KACHURIN, O.I.; GOLUBKIN, L.N.

Laboratory column of average effectiveness. Zav.lab. 28 no.5:  
630 '62. (MIRA 15:6)

1. Ivanovskiy khimiko-tekhnologicheskii institut.  
(Distillation apparatus)

KACHURIN, O.I.; SPRYSKOV, A.A.; KOVALENKO, E.V.

Sulfuration reaction. Part 57: Kinetics of sulfonation of benzene in nitrobenzene, Izv. vys. ucheb. zav.; khim. i khim. tekhn. 6 no.3:425-433 '63. (MIRA 16:8)

1. Ivanovskiy khimiko-tehnologicheskoy institut, kafedra organicheskoy khimii.  
(Sulfonation) (Benzene)



KACHURIN, O.I.; KOVALENKO, E.V.

Electric conductance of the system nitrobenzene - sulfuric acid -  
water. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 6 no.3:397-  
404 '63. (MIRA 16:8)

1. Ivanovskiy khimiko-tehnologicheskiy institut, kafedra  
organicheskoy khimii.  
(Nitrobenzene) (Sulfuric acid)  
(Systems (Chemistry)—Electric properties)

KACHUREN, S. P.		1950 H					
AMS/A+D							
<p>18-103          [Zemlya, M. I., Kachurin, S. P., et al., Obshchee uchebnoe posobie. [General course in permafrost science.] Moscow, Vsesoyuznoye Akademi Nauk, USSR, 1960. 339 p. 110 figs., 64 tables, 232 refs. (at end of chapters), numerous equations. DLC--A technical work for university students covering all phases of permafrost investigations: mechanical and physical processes of freezing and thawing, climatological and seasonal aspects, variations in soil temperatures (including considerable data for the Soviet Arctic), secular changes in boundary of permafrost area (in Asia and America) and applications to agriculture, engineering and other economic activities. In addition to a great deal of tabular data there are many graphs showing variations in time and space in soil temperature or permafrost, and many interesting illustrative photographs of equipment or research work. History, development and methods of investigation are also treated. Subject Headings: Permafrost, Soil temperatures, Textbooks, U.S.S.R. M.R.</p>							
ASB-368 METALLURGICAL LITERATURE CLASSIFICATION							
<table border="1"> <tr> <td>10000 00</td> <td>10100 010 000 000</td> <td>0000000</td> <td>0000000</td> </tr> </table>				10000 00	10100 010 000 000	0000000	0000000
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KACHURIN, S

P

O Genezise Naiboleye Rasprostran-enykh iskopayemykh l'dov severa.  
(on the origin of the most prevalent minerals in the icy sub soil of the North)  
Moskva, IZD-VO Akademii Nauk, SSSR, 1946.

37 p. illus., Diags.

At head of title: Akademiya Nauk SSSR institut Merzlotovedeniya im.  
A. Obrucheva.

KATCHURIN, S. P.

Jan 1947

USSR/Permafrost  
Soil science

"The Evidence of Permafrost in West Siberian  
Lowland," S. P. Katchurin, 7 pp

"Merzlotovedeniye" Vol II, No 1 p. 23-30

Aerial observation of the permafrost area between  
Yakutsk and Moscow. Aerial photograph of permafrost  
area and schematic chart of the southern part of  
West Siberia are included.

14165

KACHURIN, S. M.

PA 237T59

USSR/Geophysics - Permafrost

Nov/Dec 52

"Mikhail Ivanovich Sumgin, Tenth Anniversary of his Death," S.M. Kachurin and V.K. Yanovskiy, Inst of Permafrost imeni V.A. Obruchev, Acad Sci USSR

"Iz Ak Nauk SSSR, Ser Geograf" No 6, pp 56-69

Present biographical sketch of M. I. Sumgin, who founded permafrost studies and expanded the network of meteorological stations in the Amur district.

237T59

KACHURIN, S. P.

PA 246T70

USSR/Geography - Arctic

- Jan/Feb 53

"Review of G. A. Ushakov's Book 'Over the Unexplored Earth,'" S.P. Kachurin (reviewer)

"Iz V-S Geograf Obshch" Vol 85, No 1, pp 107, 108

Favorable review of Ushakov's book, "Po Nekhozhennoy Zemle," on the Russian Arctic. Published by Glavsevmorput', 1951, 400 pp.

246T70

Translation from: Referativnyy zhurnal, Geologiya, 15-1957-12-17019  
p 46 (USSR)

AUTHOR: Kachurin, S. P.

TITLE: Loesslike Sediments and Collapsed Forms of Relief in Cold Climate Regions (Lessovidnyye porody i prosadochnyye formy rel'yefa v rayonakh kholodnogo klimata)

PERIODICAL: Vopr. geologii Azii, Nr 2, Moscow, Izd-vo AN SSSR, 1955, pp 494-508

ABSTRACT: Bibliographical entry

Card 1/1

KACHURIN, S. P.

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3,  
p 186 (USSR) 15-57-3-3781D

AUTHOR: Kachurin, S. P.

TITLE: Thermokarst in the USSR (Termokarst na territorii SSSR)

ABSTRACT: Bibliographic entry on the author's dissertation for  
the degree of Doctor of Geographical Sciences, presented  
to the In-t mērzlotoved. AN SSSR (Permafrost Institute of the  
AS USSR), Moscow, 1956

ASSOCIATION: In-t mērzlotoved. AN SSSR (Permafrost Institute of the  
AS USSR), Moscow

Card 1/1



KACHURIN, S.P.

Is thermokarst a definite indication of permafrost degradation?  
Mat.k osn.uch.o merz.zon.zem.kory no.2:25-33 '55. (MIRA 13:9)  
(Frozen ground)

KACHURIN, S.P.

V.K. Ianovskii; obituary. Izv.AN SSSR.Ser.geog. no.2:167-168  
Mr-Apr '56. (MLRA 9:8)  
(Ianovskii, Vladimir Konstantinovich, d. 1955)

X

nd

KACHURIN, S.P.

KACHURIN, S.P., kand.geograf.nauk, otvetstvennyy red.; KOTLYAREVSKAYA,  
P.S., red.; PRUSAKOVA, T.A., tekhn.red.

[Seasonal freezing of soils and the use of ice for building  
purposes] Sezonnoe promerzanie gruntov i primeneniye l'da dlia  
stroitel'nykh tselei. Moskva, 1957. 145 p. (MIRA 11:1)

1. Akademiya nauk SSSR. Institut merslotovedeniya.  
(Frozen ground) (Building, Ice and snow)

MEYSTER, L.A.; SALTYSOV, N.I.; KACHURIN, S.P., kand.geogr.nauk, otv.red.;  
BRATTSEV, L.A., otv.za vypusk; OPIKOV, I., tekhn.red.

[On the history of permafrost research in the U.S.S.R.] I istorii  
geokriologicheskikh issledovaniy v SSSR. Syktyvkar, Komi knizhnoe  
izd-vo, 1958. 82 p. (MIRA 12:2)  
(Frozen ground)

KACHURIN, S.P.

Depressions in frozen ground of central Yakutia. Trudy Sev.-Vost.  
otd.Inst.merz1.AN SSSR no.1:167-178 '58. (MIRA 16:12)

KACHURIN, S. P.

"Thermokarst in the USSR."

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

KACHURIN, S.P.

Polygonal forms of relief in the north. Trudy Inst. Mersl.  
AN SSSR 16:7-23 '60. (MIRA 13:4)  
(Arctic regions--Frozen ground)

*KACHURIN, S.P.*

PHASE I BOOK EXPLOITATION

SOV/5885

Akademiya nauk SSSR. Institut merslotovedeniya

Polevyie geokriologicheskiye (merslotnyye) issledovaniya; metodicheskoye rukovodstvo (Geocryological [Permafrost] Field Studies; Methodological Handbook) Moscow, Izd-vo AN SSSR, 1961. 422 p. Errata slip inserted. 1500 copies printed.

Editorial Board: Chairman, I.Ya. Baranov, Doctor of Geographical Sciences, Professor, S.P. Kachurin, Doctor of Geographical Sciences, A.I. Yefimov, Candidate of Geographical and Mineralogical Sciences, and N.A. Vel'mina, Candidate of Technical Sciences; Eds. of Publishing House: A.A. Priklonskiy and I.N. Nikolayeva; Tech. Ed.: V.G. Laut.

PURPOSE: This book is intended for the growing number of specialists in various branches of the national economy who are concerned with engineering problems in permafrost soils.

COVERAGE: Three types of geocryological field investigations are discussed:  
1) geocryological surveying, for detecting regularities in cryogenic processes, compiling geocryological maps illustrating the distribution of

Card 1/5



Geocryological [Permafrost] Field (Cont.)

SOV/5885

permafrost areas, and for indicating the boundaries of sections with various degrees of suitability for construction; 2) subject studies of cryogenic formations (ice bodies, heaving mounds, polygonal-veined ice, etc.) and postglacial formations (thermokarst, solifluctional, etc.), which are of great importance for practical engineering; and 3) long-range stationary and semistationary observations during geocryological and engineering-geocryological surveying, for studying the dynamics of the temperature field in the zones of seasonal temperature fluctuations, regimen of the layers of seasonal freezing and thawing, heaving phenomena, fissure formation, subsidence, ground creeping, mechanical and thermal interaction between the structures and enclosing rocks or foundation grounds, etc. The handbook was compiled by a group of staff members of the Institute of Permafrost Study imeni V.A. Obruchev, AS USSR. No personalities are mentioned. References follow individual chapters.

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